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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/669,969

09/23/2003

Iosif R. Korsunsky

4887

25859

7590

05/24/2004

WEI TE CHUNG
FOXCONN INTERNATIONAL, INC.
1650 MEMOREX DRIVE
SANTA CLARA, CA 95050

EXAMINER

TSUKERMAN, LARISA Z

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,969

Applicant(s)

KORSUNSKY ET AL.

Examiner

Larisa Z Tsukerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 14-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 11 and 13 is/are rejected.
- 7) ☒ Claim(s) 8, 9 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-13, drawn to connector structure for connecting two orthogonal PCB, classified in class 439, subclass 66.
- II. Claims 14-23, drawn to **a combination (assembly)** of plurality of connectors and PCB's and classified in class 361.

The designs as grouped are distinct from each other since under the law a design patent covers only the invention disclosed as an entirety, and does not extend to patentably distinct segregable parts; the only way to protect such segregable parts is to apply for separate patents. See *Ex parte Sanford*, 1914 CD 69, 204 OG 1346 (Comm'r Pat. 1914); and *Blumcraft of Pittsburgh v. Ladd*, 144 USPQ 562 (D.D.C. 1965). It is further noted that patentably distinct combination/subcombination subject matter must be supported by separate claims, whereas only a single claim is permissible in a design patent application. See *In re Rubinfeld*, 270 F.2d 391, 123 USPQ 210 (CCPA 1959).

Inventions II and I are related **as combination and subcombination**.

Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the subcombination has separate utility such as connecting different electrical apparatus other than the combination as claimed, for example two orthogonal PCB's (35 U.S.C. 121).

The combination does not require the subcombination because the combination only broadly recites the subcombination.

Because these inventions are distinct for the reasons given above, and have acquired a separate status in the art as shown by their different classification and recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Wei Te Chung, on Friday, May 8, 2004 a provisional election was made without traverse to prosecute the invention of species I claims 1-13.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-23 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Barabi (6046597).

In regard to claim 1, Barabi discloses an electrical connector 20 for interconnecting two printed circuit boards, comprising:

a dielectric housing 20 defining a passageway (not marked) extending from a first face (not marked) to a second face (not marked), which is adjacent to the first face FF;

an electrical contact 29 received in the passageway and being moveable with respect to the housing 20; and

a biasing spring 55 arranged in the housing 20 and applying a driving force to the contact 29.

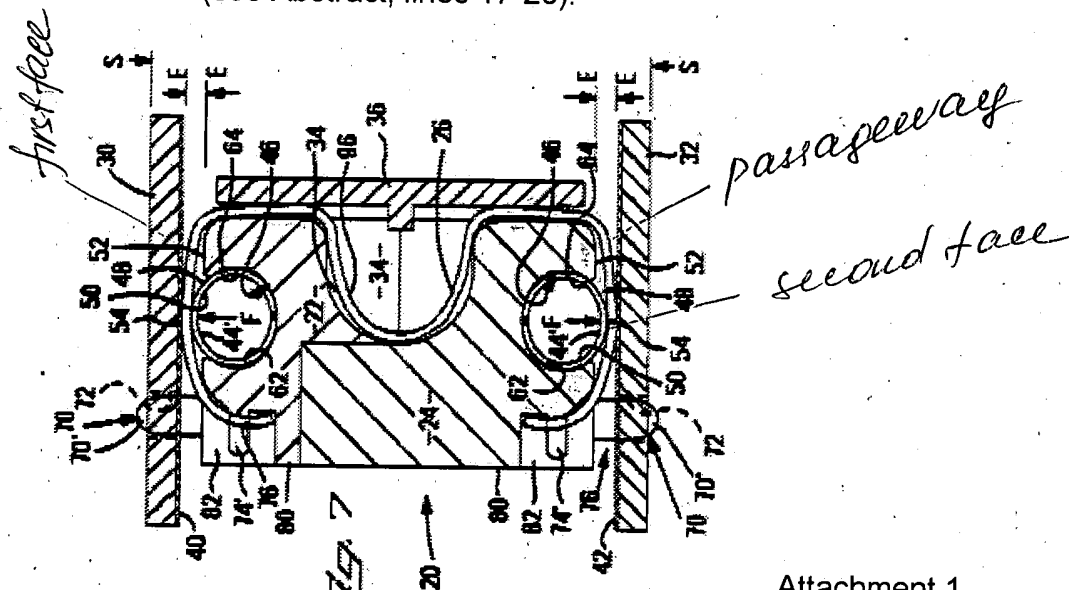
Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Buck et al. (5069627).

In regard to claim 1, Buck et al. disclose an electrical connector 20 for interconnecting two printed circuit boards 30 and 32, comprising:

a dielectric housing 24 defining a passageway (not marked) extending from a first face (not marked, see Attachment 1) to a second face (not marked, see Attachment 1), which is adjacent to the first face;

an electrical contact 26 received in the passageway and being moveable with respect to the housing 24 (see Abstract, lines 17-20); and

a biasing spring 44 arranged in the housing 24 and applying a driving force to the contact 26 (see Abstract, lines 17-20).



Attachment 1

Claims 1, 10, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hikami et al. (4846729).

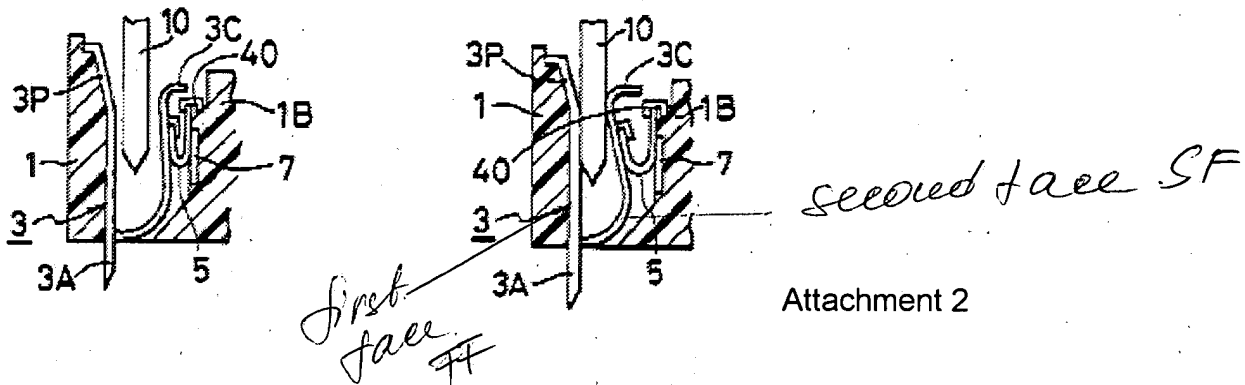
In regard to claim 1, Hikami et al. disclose an electrical connector for interconnecting two printed circuit boards 10 and mother board, comprising:

a dielectric housing 1 defining a passageway 2 extending from a first face (not marked, see Attachment 2) to a second face (not marked, see Attachment 2), which is adjacent to the first face;

an electrical contact 3 received in the passageway 2 and being moveable with respect to the housing 1 (see Figs 4 and 5); and

a biasing spring 5 arranged in the housing 1 and applying a driving force to the contact 3 (see Col. 4, lines 3-16 and Figs. 4-5)

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In regard to claim 10 Hikami et al. disclose an actuator 5 applying a force to the contact so as to moveably actuate the contact 3 (see Col. 1, lines 9-10 and 31-33).

In regard to claim 11, Hikami et al. disclose an electrical connector for interconnecting two printed circuit boards 10 and a mother board, comprising:

a dielectric housing 1 defining a **plurality of passageways 2** extending from a first face FF to a second face SF which is adjacent to the first face FF;

a plurality of electrical contacts 3 each **moveably received** in a corresponding passageway 2; and

an actuator 5 coupled with the contact 3 so as **to move** the contact within the passageway 2.

In regard to claim 13, Hikami et al. disclose the first FF and the second faces SF are perpendicular to each other.

Claims 1, 3-5, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Korsunsky et al. (6439930).

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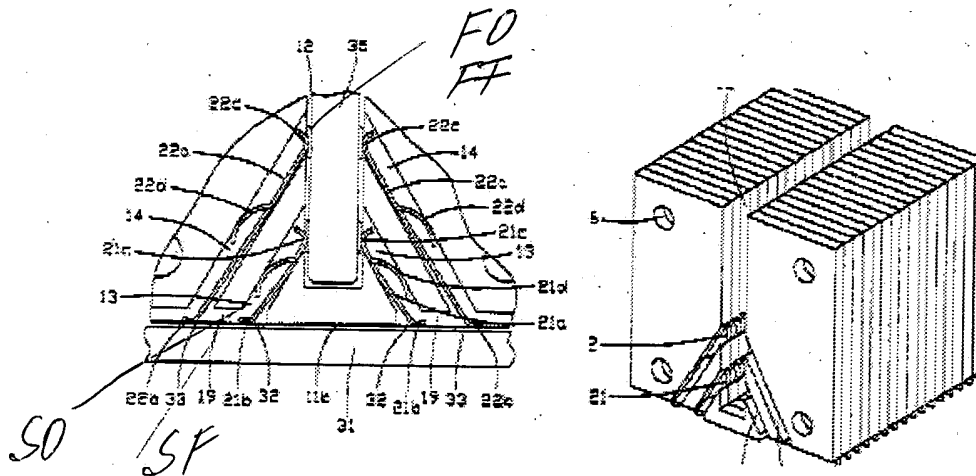
In regard to claim 1, Korsunsky et al. disclose an electrical connector for interconnecting two printed circuit boards 31 and 35, comprising:

a dielectric housing 10 defining a passageway 13 extending from a first face FF to a second face SF which is adjacent to the first face FF;

an electrical contact 21 received in the passageway 13 and being moveable with respect to the housing; and

a biasing spring 21d arranged in the housing and applying a driving force to the contact 21.

In regard to claim 3, Korsunsky et al. disclose the passageway 13 defines a first opening FO in the first face FF adapted for facing a first printed circuit board 35 and a second opening SO in the second face SF adapted for facing a second printed circuit board 31 which is perpendicular to the first printed circuit board 35 (see Fig. 6).



Attachment 3

In regard to claim 4, Korsunsky et al. disclose the first FO and the second openings SO of the passageway 13 are so dimensioned that a first 21c and a second ends 21b of the contact 21 are free to move, the first 21c and the second 21b ends of the contact 21

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being adapted to move along the first 35 and the second 31 printed circuit boards, respectively.

In regard to claim 5, Korsunsky et al. (6439930) disclose the biasing spring 22d applies a driving force to the first end 21c of the contact 21.

In regard to claim 7, Korsunsky et al. disclose the first FF and the second SF faces are perpendicular to each other (see Attachment 3).

Claims 1 - 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Cosmo (4593961).

In regard to claim 1, Cosmo discloses an electrical connector 50 for interconnecting two printed circuit boards 60 and 54, comprising:

a dielectric housing 52 defining a passageway (not marked) extending from a first face (not marked) to a second face (not marked) which is adjacent to the first face (see Attachment 3);

an electrical contact 68 received in the passageway (not marked, see Col.6, lines 35-36, imbedded) and being moveable with respect to the housing 52 (see Col. 6, lines 34-35 and 44-46); and

a biasing spring 64 arranged in the housing 52 and applying a driving force to the contact 68 (see Col. 6, lines 34-35 and 44-46, wiping).

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In regard to claim 2, Cosmo discloses the biasing spring 64 comprises an insulator body abutting against the contact 68.

In regard to claim 3, Cosmo discloses the passageway (not marked) defines a first opening 67 in the first face (not marked) adapted for facing a first printed circuit board 60 and a second opening 67 in the second face (not marked) adapted for facing a second printed circuit board 54 which is perpendicular to the first printed circuit board 60 (see Fig. 7).

In regard to claim 4, Cosmo discloses the first 67 and the second openings 67 of the passageway are so dimensioned that a first and a second ends (not marked) of the contact 68 are free to move (see Col. 6, lines 43-45 and Col. 7, lines 3-4), the first and the second ends of the contact 68 being adapted to move along the first 60 and the second 54 printed circuit boards, respectively (see Col. 6, lines 43-45 and Col. 7, lines 3-4).

In regard to claim 5, Cosmo discloses the biasing spring 64 applies a driving force to the first end of the contact 68.

In regard to claim 6, Cosmo discloses the biasing spring 64 urges the second end of the contact to protrude over the second face of the housing (see Col. 6, lines 43-45 and Col. 7, lines 3-4).

Allowable Subject Matter

Claims 8-9 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior Art of record do not teach or suggest --

In regard to claim 8, an actuator coupled with the second end of the contact so as to move the first end of the contact along a first direction, and wherein the biasing spring applies a force to the contact tending to move the first end of the contact along a second direction opposite to the first direction;

In regard to claim 9, the actuator comprises a main body made of a metal sheet and an insulator portion connected with the second end of the contact.

In regard to claim 12, the actuator comprises an insulator portion defining a plurality of holes receiving first ends of the contacts.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wang et al. (6132222), Mann, Jr. et al. (4840570), Porter (4815979), Michel et al. (3715706), Stillie (4693529), Reimer (4597619), Dery (5026290), Casciotti (4969824),

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Engenbrode, deceased (4552420), Gillett (5123852), Werner (4998886), Herrmann (3215968).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larisa Z Tsukerman whose telephone number is (571)-272-2015. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A Bradley can be reached on (571)-272-2800 ex. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT, May 12, 2004


THO D.TA
PRIMARY EXAMINER